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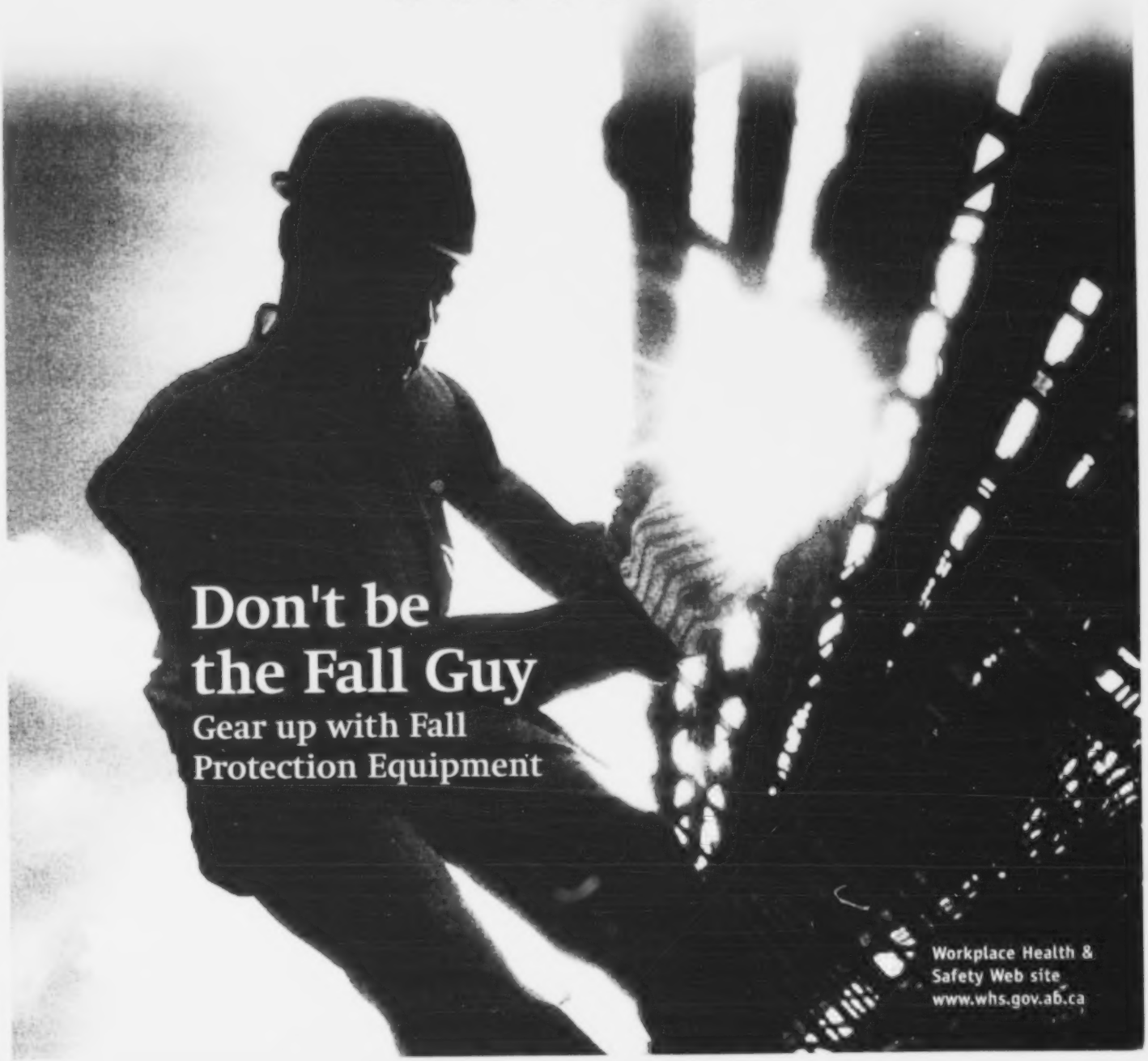
OCCUPATIONAL

# Health & Safety

MAGAZINE



## Don't be the Fall Guy

### Gear up with Fall Protection Equipment

Workplace Health & Safety Web site
www.whs.gov.ab.ca

# Violence in the Workplace – Prevention is Possible

by Charmaine Hammond, BA, RSW, C. Med., RFM

Incidents of violence in the Canadian workplace are on the rise, costing industry and organizations millions of dollars each year.

Violence in the workplace consists of more than extreme acts of violence that result in fatalities. It includes incidents that evoke fear, or threaten or jeopardize an individual's safety. However, workplace violence includes many other damaging acts. In the context of a workplace, incidents may be manifested in:

- Threats (verbal and physical)
- Acts of aggression
- Verbally offensive or abusive language
- Racial slurs
- Purposeful property damage
- Sabotage
- Blatant refusal to abide by policy
- Unwanted sexual attention
- Violence
- Theft

Organizations often think of violence in the workplace as events that include aggression exhibited by customers or clients. While office design, mirrors, security and security windows at reception counters may discourage clients or customers from acting aggressively, they do not protect employees from violence inside an organization.

Often we don't recognize incidents of workplace violence when they occur. We see them as isolated acts, minimize their severity and intent, and make excuses for the behaviour displayed by the perpetrators. Identifying these acts for what they are, and setting up appropriate prevention and intervention procedures, increases the safety of employees (and customers and the general public), reduces the costs of damages and litigation, and maintains a company's reputation.

Workplace violence is not limited to incidents that occur within a traditional workplace location (such as an office or plant site). Incidents can also occur at off-site business-related events, at work-related social events, in clients' homes, or away from work but resulting from work (such as a threatening telephone call to your home from a fellow co-worker).

## Make your company a zero-tolerance area

Creating an atmosphere of zero tolerance for violent behaviour is the beginning to prevention. Start by conducting a workplace survey to collect baseline information about the potential for violence in your organization. After running the survey, establish a committee to review the results and make recommendations to management.

An important component of any violence prevention program is the screening, interviewing and hiring process. When demand for workers is high, these processes are often overlooked or rushed. It's critical to verify information supplied by a job candidate on the employment application to ensure the person possesses the skills, qualifications and job history claimed, and meets the job requirements. Carefully

**continued on page 11**

## An Effective Violence Prevention Program

Violence prevention programs work best when tailored to the individual organization. Take the following steps to set up an effective program:

- Make it your organization's policy that violence will not be tolerated.
- Put together a violence prevention committee that represents a cross section of the organization, including workers, union representatives, and possibly external stakeholders.
- Review current policies, develop and implement new policies.
- Choose a program name that suits your organization. Consider the titles "employee wellness" or "respectful workplace" as alternatives to "violence prevention."
- Establish a communications channel through which workers can anonymously submit confidential information or report incidents. This might be a hotline, a team of internal confidantes or a special form.
- Include processes for early identification and resolution of work-based conflicts.
- Review pre-employment screening and hiring practices.
- Review the termination and layoff process.
- Review policies and practices for employees who are at most risk of violence, such as occupational health nurses who might be involved in mandatory drug or alcohol testing.
- Prepare a crisis response plan.
- Ensure follow-up occurs after any incidents.
- Test and improve the program continually. Make this task a priority.

# Violence
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# Health & Safety
MAGAZINE

A Workplace Health and Safety
Alberta Human Resources and Employment publication

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**How to contact us**

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whs@gov.ab.ca

**How to get more occupational health and safety information**

Look up the Workplace Health and Safety Web site at **www.whs.gov.ab.ca**
**OR** Contact the Workplace Health and Safety Call Centre at

**1-866-415-8690**

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# Massage Therapy

## Can Relieve Low Back Pain

Massage therapy can be used as an effective treatment for low back pain, according to a controlled trial conducted at the Health and Performance Centre, University of Guelph. The effectiveness of the treatment, however, depends on the inclusion of stretching exercises and posture education in the massage treatment regimen. The trial's results, published in the *Canadian Medical Association Journal* and reported in *Linkages*, an Institute for Work and Health publication, gives hope to those who suffer chronic low back pain. According to *Linkages*, "Massage therapy given by an experienced massage therapist, plus stretching exercises and posture education, seems to be beneficial for patients whose current episode of non-specific low back pain has lasted from one week to eight months." After treatment, trial subjects reported improvement related to function, pain intensity, quality of the pain and level of anxiety.

Trish Dryden, professor of the Massage Therapy Program at Centennial College, considers this a "landmark study." The study "points out that the sophisticated use of soft-tissue manipulation is only one part of successful massage therapy treatment. To sustain the benefits of treatment, it is critical for massage therapists to educate patients in self-care through appropriate exercise and knowledge of the biomechanics of their bodies."

Low back pain affects 85 per cent of the population at some time in their lives. "Each year," reports *Linkages*, "five to 10 per cent of the workforce is off work for some time due to low back pain, the majority for less than seven days . . . . Ten per cent are at risk of developing chronic pain and disability, and account for more than 90 per cent of the social costs for back incapacity."

For more detail on the study, go to www.iwh.on.ca and choose Publications.

# *Working Alone* Regulation

The deadline for complying with Alberta's new Working Alone Regulation was April 30, 2001. This regulation applies to any employer of staff who work alone. All the information required to comply with the regulation is provided in "Working Alone Safely, A Guide For Employers and Employees." This handbook includes safety checklists for employers and best practices for employees. You can download a copy of the handbook from the Workplace Health and Safety (WHS) Web site at www.gov.ab.ca/hre/workingalone/index.html or order a copy from the WHS Call Centre, 1-866-415-8690.

# Is Your First Aid Training Approved?

Since the new First Aid Regulation came into effect last year, processes for approving first aid courses and agencies have changed. This has generated questions about what is approved training and what is not.

If you're shopping for first aid training and wondering whether a course you plan to take is approved, check the list of approved first aid training on the Workplace Health and Safety (WHS) Web site (www.whs.gov.ab.ca). If an agency's course is on the list at the time the training is taken, then consider it approved. The certificate received from an approved course is valid for the time period indicated on it.

Buyer, beware! Some workplace first-aiders have taken training that they thought was approved when it wasn't. The list of approved first aid courses can change from time to time. To make sure you enrol in an approved course, check the Web before registering.

If you have questions or concerns, phone the WHS Call Centre at 1-866-415-8690.

# 2001 Municipal Safety/Utility Workshop and Trade Show

**December 4 – 6, 2001**
**Red Deer Lodge, Red Deer, Alberta**

Attend this workshop to stay current with health and safety issues and regulation changes, and establish contacts with others working in the health and safety field. Workshop topics include marketing your health and safety program to management, road rage and working alone legislation changes.

For more information on the workshop or the trade show, please contact Al Coker at (403) 347-0324 or adcoker@home.com

## Find Global OH&S Events

Check out the CCOHS (Canadian Centre for Occupational Health and Safety) Web site for an extensive list of oh&s events worldwide: www.ccohs.ca/events/conferences/2001

## *Steering* for Success

Canadian Society of Safety Engineering (CSSE) presents its annual professional development conference:

**November 18 - 20, 2001**
**Vancouver, British Columbia**
**Westin Bayshore Hotel**

The CSSE's annual professional development conference offers delegates leading-edge presentations on current topics of interest to occupational health and safety practitioners – information that is crucial to career improvement and advancement. Expert keynote speakers and dynamic workshop sessions will offer innovative solutions to the challenges of today's corporate environment, focusing on occupational health and safety's role in improving corporate results.

This conference also provides a rare opportunity to network with peers from other organizations. The exhibit area features the latest products and services from high-quality providers that cater to the occupational health and safety profession.

For more information, look up www.csse.org/docs/prof_dev_conf.html

## Correction

In the May 2001 issue of the magazine, we mistakenly referred to Dr. Aminah Robinson as "he" in the article "Old Concept, New Form: Mentoring for Young Workers." Dr. Robinson is assistant professor in the University of Alberta's department of civil and environmental engineering.

**Workplace Health & Safety (WHS)**

# What does Workplace Health and Safety do for you?

**Introducing Legislation, Policy and Technical Support Services**

While Workplace Health and Safety (WHS) depends on its 64 occupational health and safety officers throughout the province to ensure regulations are respected, other WHS staff, located in Edmonton, are equally busy supporting the officers' work. You can find them with the Partnerships in Health and Safety program (see page 22) or the Legislation, Policy and Technical Support group.

Fourteen specialists in the Legislation, Policy and Technical Support team work with industry, labour, government agencies, educational institutions and the public. For the last year the group has focused its energies on the recently completed regulatory review process (see page 11). Meanwhile, staff continued to publish bulletins, booklets and interpretive documents at an unprecedented rate (see the WHS Web site for a complete list) and introduced the WHS Web site. Other important functions include:

- updating and maintaining the WHS Web site
- approving first aid courses
- issuing permits for the use of explosives
- funding and promoting health and safety public awareness campaigns, such as Heads-Up
- writing "acceptances." These exempt organizations from compliance with regulations when their procedures meet or exceed specifications in the regulations
- overseeing the Radiation Protection Act and the Mines Inspection Regulation.

**Contact WHS any time . . .**

For occupational health and safety information and assistance, phone the Call Centre **1-866-415-8690** or go to the WHS Web site **www.whs.gov.ab.ca**.
Whether you want to check a safe-work procedure, compliment a WHS officer or register a complaint, this is your opportunity.

**How to reach the Alberta Government Library**

The Alberta Government Library (formerly the Alberta Human Resources and Employment Library) houses a large selection of occupational health and safety information materials. It is linked electronically to 25 university, college, health and government libraries across Alberta. You can search the library catalogue over the Web through **gate.library.ualberta.ca**. The Alberta Government Library location code is **AB HR & Employment**.

To borrow materials, please contact your local library and make your requests through the inter-library loan process. Or you can visit the library in person at:

- 3rd Floor, 10808 – 99 Avenue
  Edmonton, Alberta T5K 0G5
- (780) 427-8533 or toll-free, 310-0000
- (780 422-0084
- www.gov.ab.ca/hre/facts/av

**How to order Workplace Health and Safety publications**

Workplace Health and Safety produces publications on a variety of occupational health and safety subjects. Publications include manuals, brochures, booklets, bulletins, posters and stickers. They are regularly reviewed and updated.

Over 200 publications are available from Workplace Health and Safety. Find them on the WHS Web site, **www.whs.gov.ab.ca** or order them through the WHS Call Centre, **1-866-415-8690**.

*WHS is a division of Alberta Human Resources and Employment and falls under the jurisdiction of Minister Clint Dunford.*

# What Does It Take to Be a Supervis

by Bill Corbett

Health and safety concerns tend to focus on either the worker or the employer. But the often forgotten person in the middle – the supervisor – also plays a critical role in keeping the workplace safe.

The supervisor is the on-the-job eyes and ears of the company. The supervisor is the "employer's representative," as defined in *The Occupational Health and Safety Act*. So whatever is required of the employer is required of the supervisor. He or she makes sure all legislation and regulations are adhered to, the company's health and safety policies and procedures are properly carried out and workers perform their jobs safely. The supervisor is also a health and safety go-between, explaining new management policies to workers and passing employee concerns and suggestions up to management.

Yet many supervisors, especially in small to mid-sized companies, are ill-prepared for their health and safety responsibilities. For starters, they may have been promoted to the position because of their technical work skills, rather than for their capacity to supervise and communicate. The problem is compounded when they are given insufficient resources and training to adequately fulfill their safety role. Worse, they may never have been informed of their legal obligation to keep the workplace safe.

"Some supervisors are just not aware of their responsibilities to ensure the health and safety of employees," says Don Hindy, mines health and safety program coordinator with Workplace Health and Safety. "We still find companies that are not familiar with what those responsibilities are, especially under updated regulations."

While the onus is on the employer to provide a safe workplace, the supervisor – who in some cases may be deemed an employer – also has a number of legal responsibilities to fulfill. These include informing workers of their legal health and safety duties, dealing properly with hazardous activities, and appropriately handling and reporting (in writing) safety problems and incidents. All supervisors should be aware of their responsibilities under

**The first step to ensure front-line supervisors maintain a safe workplace is to select the right people for the job.**

# or?

the *Occupational Health and Safety Act* and its associated regulations (see the contacts and Web site information at the end of this article).

"New supervisors at our plant sit down with me and we review the legislation," says Sheri Christensen, safety coordinator with Lakeside Packers in Brooks. "Most of them are aware of the legislation and regulations, but they may not realize how extensive it is or how their role fits into it. I like them to read the legislation and realize it's not just talk."

The supervisor is not just a watchdog but also a coach and mentor to workers. That means he or she must have strong communication skills, as well as a willingness to learn new ways of doing things. The next step is to make sure the supervisor is well versed in the company's safety policies and procedures and the appropriate legislation and regulations.

Because leadership and communication skills don't always come naturally, supervisors should receive sufficient on-the-job and external health and safety training. The latter is often available from industry safety associations. The Alberta Construction Safety Association (ACSA), for example, offers a one-day course in Supervisor Training in Accident Reduction Techniques and a two-day Leadership for Safety Excellence (LSE) program.

"The LSE is the flagship course of our organization. Even some companies outside the construction industry use this course to train their supervisors," says ACSA Calgary office manager Bill Tremain. "Our industry developed these courses a number of years ago because it saw the need to train supervisors in health and safety. Often a tradesperson becomes a supervisor, and all of a sudden safety becomes more predominant in their job, and they need the skills to handle such things as inspections and investigations." (www.acsa-safety.org/ Click on Course Descriptions)

Sometimes, supervisors need to be trainers themselves. "Our supervisors make sure our employees are trained so they perform their tasks properly and don't get injured," says Lise Plamondon, corporate resources manager of Westmark Products, a Stony Plain secondary manufacturer of wood products. "Our supervisors are also responsible for hazard assessment and control, and they perform some tasks that are considered dangerous, such as unplugging dust collection systems."

Alberta's mining industry has long had programs to certify its supervisors through exams that, among other things, extensively test their knowledge of health and safety regulations. For example, the Alberta Mine Safety Association (AMSA) has developed a computerized program (soon to be available through the Internet) that tests supervisors on safety in surface mines. To answer the multiple-choice questions, candidates are allowed to refer to health and safety legislation and regulations. To become certified for five years, they must eventually answer all the questions correctly.

"It's a good, extensive test, because there are 27 regulations that are specific to front-line supervisors," says AMSA chair Lowell Sams, senior loss management advisor for Syncrude's mine safety. "At Syncrude, our workers take the AMSA test as well, so that they understand what the supervisor needs to know about safety."

Such initiatives have helped the mining industry significantly improve its safety record. "A couple of decades ago, Alberta's mining sector had a poor safety record," says Don Hindy. "Now it's one of the best sectors in the province. The overall accident frequency rate in surface mines is less than one per 200,000 working hours."

*Bill Corbett is a Calgary writer.*

## Resources

For more information on the roles and responsibilities of supervisors, phone the Workplace Health and Safety's Call Centre at 1-866-415-8690.

### WEB LINKS

**www.gov.ab.ca/hre/ehs/**
Alberta's *Occupational Health and Safety Act* and regulations. Click on Regulations and Legislation.

**www.skyenet.net/~leg/legindex.htm**
The "home page for leaders-in-the-making," points to specific sections on total quality management diagnostics, supervisor core skills and more.

**www.indiana.edu/~caps/trainingmanual/forms/supvisor.htm**
From Indiana University, an evaluation form of supervisory skills.

### IN THE ALBERTA GOVERNMENT LIBRARY

*Publications*

**Beyond Generation X: A Practical Guide for Managers**
by C. Raines
Menlo Park, CA: Crisp Publications, Inc., 1997
(HF 5549.12 R34 1997)

**The Supervisor's Guide to Teams and Workgroups**
Mississauga, Ont.: The Gemcor Group Inc., 1997
(HF 5549.12 S96 1998)

*Videos*

**Supervising for Quality**, 1994, 26 min.
(HRV 117)

**Supervising Safety – You Make the Difference**, 1985, 19 min.
Techniques supervisors can use to change employees' behaviour to reduce accidents.
(VC 0054)

**How To Conduct Safety Meetings: A Part of Your Job**, 1990, 15 min.
Provides line supervisors, section managers and other supervisory personnel with essential points for planning and conducting a safety meeting.
(VC 0166)

# The Perception Survey

## Measuring the **Intangibles** in Workplace Health and Safety

by Allan Sheppard

**When it comes to health and safety, what we see (or think we see) often influences what we do (or think we should do).**

The advertising was simple, but compelling. It appeared on Alberta billboards a couple of years ago, sponsored by the partners of the Mission Possible auto safety initiative. It featured an automobile rear view mirror with the reflected image of a police car. Above, the legend read: "Suddenly, you're a good driver."

The billboard was effective, says Mission Possible research coordinator Sandra Marini, because it provoked a shock of recognition among drivers, many, if not most of whom know they do not drive as carefully as they should (and can) when the police are not around.

That Mission Possible billboard spoke to issues in worker safety as well as traffic safety. People who have the necessary equipment, training, skills, knowledge, procedures and experience to perform tasks safely do not necessarily follow through, either in the family car or on the job. To discover what influences people's behaviour and determine ways to address discrepancies between knowledge and action, behaviour research specialists use perception surveys.

As useful as they are for programs such as Mission Possible, perception surveys can also be used to determine ways to improve occupational health and safety systems. When perception surveys have been used in safety management, "they have been found to be invaluable in diagnosing what actions are needed to improve safety systems," says Dan Petersen[1], yet they have not been adopted widely in occupational health and safety management. Petersen is generally credited with pioneering the use of behavioural research and perception surveys to measure the effectiveness of occupational health and safety systems.

### Perception is reality

In an occupational health and safety setting, the perception survey is a tool that reveals influences on employee behaviour – such as peer or production pressures. It also reveals how trusting employees are of management. "Designed and administered properly," says Dennis Ryan of an Edmonton-based consulting firm, Compass Health & Safety, "perception surveys provide insight not only into what is happening in a health and safety management system, but why it is happening." If

**A health and safety management system is only as good as employees perceive it to be.**

# Suddenly, you're a good driver.

**What are you doing behind the wheel?** CAA Alberta Motor Association MISSION POSSIBLE


managers don't know why things are happening – or not happening – how can they know what to keep and what to change?

Most of Ryan's work involves performing safety audits, Workplace Health and Safety's authorized process for measuring workplace health and safety programs and awarding certificates of recognition. He has recently shifted some of his efforts to administering perception surveys – not as an alternative to safety audits, which provide necessary and useful information about individual safety program factors and components, but as a complementary tool that focuses on how employees perceive their companies' health and safety management systems.

Perception surveys can help explain why safety measures that managers introduce in apparent good faith do not yield expected results in terms of employee behaviour on the job.

"A health and safety management system is only as good as employees perceive it to be," says Ryan. "If employees believe that management values production over safety, some of the choices they make on the job site will lead to incidents. It is the culture that dictates how employees will conduct their work when the boss is not around."

Culture includes things like "shared beliefs, values, norms, attitudes, trust, credibility, commitment, leadership, rewards, etc." Perception surveys assess what employees think and feel about a company's safety system and culture. They measure how employees' perceptions and attitudes differ from those of their managers and supervisors.

"Safety excellence only occurs when supervisors, managers and executives demonstrate their values through actions and then, being credible, ask hourly workers to help improve the system," says Petersen. Typical survey questions ask employees to rate specific health and safety practices on a scale from 1 (negative) to 4 (positive). The number ratings are totalled and averaged for each question. A score between 3 and 4 indicates a positive health and safety culture, while scores below 3 point to the need for action. A typical survey question is "Are all near-miss incidents reported?"

Each question also includes space for employee comments that flesh out numerical ratings and point to possible causes and solutions.

"Employees measure corporate commitment to health and safety by what management does," says Ryan. "They look at what management pays attention to, what management condones or ignores and what management measures: productivity, quality, service, safety and so on. Perception is reality, and what managers do shapes what employees see.

"It's no accident that companies that lead their industry in health and safety also lead in productivity and quality. It is the corporate culture that influences a company's success in these areas, and culture is measurable."

ATCO Gas has carried out five perception surveys in the last 10 years, says Garry Fink, general supervisor of health and safety. Each involved about 600 workers, supervisors and managers. "We do both safety audits and

## 9 Steps to Improved Health & Safety

**Employers use perception surveys to assess and address a company's safety culture and management credibility. Ryan offers nine steps to conducting and following through on the results of a perception survey.**

1. Form a survey working group with management and employee representation.
2. Agree on survey design, content and method of delivery, using outside experts, if necessary. The work group may purchase standard surveys (such as the Minnesota Perception Survey[2]), use or adapt templates from textbooks and manuals, or develop their own survey questions.
3. Announce and promote the survey.
4. Administer the survey. Participation must be anonymous and workers must be confident supervisors and managers will not see their completed surveys. Outside consultants or members of the survey working group normally supervise survey sessions and remove the completed surveys immediately.
5. Analyze the results to determine what aspects of the program employees perceive are, or are not, working. Identify differences in perception between workers and management, and develop strategies to eliminate them.
6. Publicize the results.
7. Assemble problem-solving work groups.
8. Develop an action plan and follow through on it: "If only part of the process is carried out, the outcome will be no different than those corporate feel-good surveys that have failed in the past," says Ryan.
9. Monitor action on the plan, not the cultural changes.

perception surveys as part of our continuous improvement process." Fink appreciates the value of measuring his company's corporate safety culture, and he underlines the importance of action: "We can't spend all our time measuring. We must show we are equally committed to action." If there is no follow-up, workers become cynical.

AltaGas Utilities Inc. recently completed its first perception survey of about 150 employees. After two safety audits, it seemed the "next logical and value-added step" in the company's award-winning safety program, says manager of operating services, Bill Emmerzael.

AltaGas's survey produced some surprises. It showed, as expected, that there were areas where the company could take steps to align its actions with worker expectations. But it also found areas where action had been taken to deal with past issues, yet the new information had not registered with workers. It was as important to address such communication breakdowns as it was to take action on deficiencies.

Fink and Emmerzael use and value the information from safety audits and perception surveys. Audits are more objective, says Fink. "They focus on the things that are easier to measure." Perception surveys pose questions directed at issues that are hard to measure. Their results are more subjective. But, says Fink, "they give us an opportunity to enhance the quality of our health and safety management."

*Allan Sheppard is a freelance writer and researcher. He lives in Edmonton.*

(1) Quotations from Dan Petersen are taken from "Safety Management 2000. Our Strengths & Weaknesses," an article written by Petersen for the January 2000 issue of *Professional Safety*, published by the American Society of Engineers.

(2) The Minnesota Perception Survey and its variants are written surveys developed by a group of railroad safety managers and by scientists at the Aberdeen Proving Ground in the early 1980s. This process has been used successfully by scores of companies to improve safety performance.

### Resources

**WEB LINKS**

**www.natlsco.com/safety/ask.html**
NATLSCO Safety's employee perception survey.

**www.nrc.gov/NRC/OIG/SURVEY/**
"Safety Culture and Climate Survey," The executive summary, June 1998. An example of the results of a qualitative (perception) and quantitative (audit) survey from the NRC (U.S. National Research Council).

**www.adgap.com/bi/brooks_article1.html**
"How to Develop Leverage for Safety Improvement," by Brooks Carder, Ph.D., from Business Intelligence, a division of AdGap.

**www.behavior.org/safety/safety_references.cfm**
"Managerial Factors Related to Safety Program," by C. Bailey. An update on the Minnesota Perception Survey.

**www.asse.org/psin7.htm**
American Society of Safety Engineers, publisher of *Professional Safety*, the journal that carried Petersen's article.

**www.ownershipassociates.com/survey.html**
"Surveys and Employee Ownership," a reference document provided by Ownership Associates, Inc.

**continued from page 2**

review résumés: explore work history inconsistencies or periods of time without employment. Obtain proof of current employment.

Many organizations are expanding their existing safety programs to include respectful workplace (or violence prevention) programs. The benefits include increased safety and morale, heightened productivity, and reduced legal and replacement costs.

*Charmaine Hammond is president of Hammond Mediation & Consulting Group Inc. in Fort McMurray. She is a chartered mediator with an extensive background in dispute resolution, conflict management system design and violence prevention programming.*

Resources

**WEB LINKS**

**www.wps.org/pubs/dispute-resolution.html**
"Dispute Resolution and Workplace Violence," by Tia Schneider Denenberg, Richard V. Denenberg, Mark Braverman and Susan Braverman, *Dispute Resolution Journal, Workplace Solutions*, January - March 1996. A detailed, well researched and annotated article.

**www.usda.gov/news/pubs/violence/wpv.htm**
The USDA (U.S. Department of Agriculture) *Handbook on Workplace Violence, Prevention and Response*. This is the department's official policies and procedures manual for dealing with imminent violence from employees or clients. It is very detailed and, for larger organizations, could provide a model for a procedures manual.

**som.csudh.edu/pub_admin/dkarber/ehart/annotatedbib.htm**
California State University's annotated bibliography on violence in the workplace. An excellent source of many on-line references.

**www.opm.gov/workplac/handbook/toc.htm**
*Dealing with Workplace Violence: A Guide for Agency Planners*, by the U.S. Office of Personnel Management, 1998. This is a huge manual that deals with all aspects of workplace violence. It includes an entire section on alternative dispute resolution.

**IN THE ALBERTA GOVERNMENT LIBRARY**

*Publications*

**Violence in the Workplace: Prevention Guide**
Hamilton, Ont.: Canadian Centre for Occupational Health and Safety (CCOHS), 2001
(HF 5549.5 E43 V56 2001)

**Violence in the Workplace: Preventing, Assessing and Managing Threats at Work**
by C. Wilkinson
Rockville, MD: Government Institutes, 1998
(HF 5549.5 E43 W54 1998)

*Video*

**Workplace Violence**, 1994. 29 min.
How to identify different types of violence and their causes, and protect yourself and your co-workers. The video also explains the importance of reporting workplace violence.
(VC 0274)

# OHS Regulatory Review Update

## On the Books (almost) — The *New* Occupational Health and Safety Regulation

Never before have any occupational health and safety regulations in Alberta undergone such extensive scrutiny, nor the final drafts received such high approval ratings, says Dan Clarke, who headed the team at Legislation, Policy and Technical Services responsible for the just-completed regulatory review process.

Once the new *Occupational Health & Safety Regulation* that consolidates and replaces current regulations has completed the legal drafting stage (where lawyers work to ensure the intent of the regulation is appropriately worded), it must be reviewed by Standing Policy Committee and Cabinet before it becomes law.

Begun in 1999 as the result of a government-wide initiative, the regulatory review was deemed particularly critical at Alberta Human Resources and Employment (then called Alberta Labour), Clarke suggests, "because some regulations had not been changed for 20 years." (A sunset clause is now built into all government regulations. If untouched for five years after its enactment, a regulation is automatically repealed.)

Clarke notes that "previous regulatory review processes had not been either as extensive or consultative." The new regulation was circulated not only among industry and labour stakeholders but was also made available to the general public on the Web.

Eight task forces, comprised primarily of industry and labour representatives, were chaired by department content experts. They reviewed all of the current regulations, determined the changes they thought necessary and helped draft proposed changes. The Council for Workplace Safety, set up in 2000, was to resolve items that could not be agreed upon.

"It's quite remarkable," says Clarke of the high degree of consensus achieved. "We had the support of 84 volunteer representatives who reviewed over 700 sections in the regulations. Yet there were only eight non-consensus sections that had to be forwarded to the council."

Clarke is lavish with praise for the volunteers. They received no pay but put in "hundreds and hundreds" of hours at meetings and in reviewing material. Their efforts were reflected in the approval ratings received from the public. Most responses to the draft delivered an approval rating of 90 per cent or more.

While all regulations were reviewed and updated, some underwent more changes than others. "One of the biggest changes was in the Chemical Hazards Regulation," notes Clarke, adding that "all 600 or so OELs (occupational exposure limits) have been reviewed and many will drop by a factor of two or more." He says there have also been "big changes" in the allowable noise limits. Industries that involve activities and technologies previously not addressed in the regulations, such as robotics and diving, are now covered.

Though it might not hit the newsstands, the new regulation will be available through the Queen's Printer sometime early in 2002. Watch the media for announcements.

If you're an employer, be aware that all employers covered by the *Occupational Health and Safety Act* are obligated to have a copy of the new regulation once it becomes law. Employers will be granted a grace period "to help them get up to speed," says Clarke. As well, content experts from Workplace Health and Safety (WHS) will offer presentations and seminars about the regulation to industry.

Best of all, Clarke says, the new regulation, written in plain language, "makes information easier to find and understand."

*For more information about the new Occupational Health and Safety Regulation, call (780) 427-2687.*

## 9 Steps to Improved Health & Safety

**Employers use perception surveys to assess and address a company's safety culture and management credibility. Ryan offers nine steps to conducting and following through on the results of a perception survey.**

1. Form a survey working group with management and employee representation.
2. Agree on survey design, content and method of delivery, using outside experts, if necessary. The work group may purchase standard surveys (such as the Minnesota Perception Survey[2]), use or adapt templates from textbooks and manuals, or develop their own survey questions.
3. Announce and promote the survey.
4. Administer the survey. Participation must be anonymous and workers must be confident supervisors and managers will not see their completed surveys. Outside consultants or members of the survey working group normally supervise survey sessions and remove the completed surveys immediately.
5. Analyze the results to determine what aspects of the program employees perceive are, or are not, working. Identify differences in perception between workers and management, and develop strategies to eliminate them.
6. Publicize the results.
7. Assemble problem-solving work groups.
8. Develop an action plan and follow through on it: "If only part of the process is carried out, the outcome will be no different than those corporate feel-good surveys that have failed in the past," says Ryan.
9. Monitor action on the plan, not the cultural changes.

perception surveys as part of our continuous improvement process." Fink appreciates the value of measuring his company's corporate safety culture, and he underlines the importance of action: "We can't spend all our time measuring. We must show we are equally committed to action." If there is no follow-up, workers become cynical.

AltaGas Utilities Inc. recently completed its first perception survey of about 150 employees. After two safety audits, it seemed the "next logical and value-added step" in the company's award-winning safety program, says manager of operating services, Bill Emmerzael.

AltaGas's survey produced some surprises. It showed, as expected, that there were areas where the company could take steps to align its actions with worker expectations. But it also found areas where action had been taken to deal with past issues, yet the new information had not registered with workers. It was as important to address such communication breakdowns as it was to take action on deficiencies.

Fink and Emmerzael use and value the information from safety audits and perception surveys. Audits are more objective, says Fink. "They focus on the things that are easier to measure." Perception surveys pose questions directed at issues that are hard to measure. Their results are more subjective. But, says Fink, "they give us an opportunity to enhance the quality of our health and safety management."

*Allan Sheppard is a freelance writer and researcher. He lives in Edmonton.*

[1] Quotations from Dan Peterson are taken from "Safety Management 2000: Our Strengths & Weaknesses," an article written by Peterson for the January 2000 issue of *Professional Safety*, published by the American Society of Engineers.

[2] The Minnesota Perception Survey and its variants are written surveys developed by a group of industrial safety managers and by a group of the Minnesota Twins in the early 1980s. The process has been used successfully by several companies to improve safety performance.

**WEB LINKS**

www.natisco.com/safety/ask.html
NATISCO Safety employee perception survey

www.nrc.gov/NRC/OIG/SURVEY/
"Safety Culture and Climate Survey." The executive summary, Data Table A1 (an example of the results of a qualitative (perception) and quantitative (audit) survey from the NRC (U.S. Nuclear Regulatory Commission)

www.adgap.com/bi/brooks_article1.html
"How to Develop Leverage for Safety Improvement," by Brooks Lindsay, PE, from Business Intelligence, a division of Adgap

www.behavior.org/safety/safety_references.cfm
"Managerial Factors Related to Safety Programs," by L. Brilla, an update on the Minnesota Perception Survey

www.asse.org/psin7.htm
American Society of Safety Engineers, publisher of *Professional Safety*, the journal that carried Peterson's article

www.ownershipassociates.com/survey.html
"Surveys and Employee Ownership," a reference document provided by Ownership Associates, Inc.

continued from page 2

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**WEB LINKS**

www.wps.org/pubs/dispute-resolution.html

www.usda.gov/news/pubs/violence/wpv.htm

som.csudh.edu/pub_admin/dkarber/ehart/annotatedbib.htm

www.opm.gov/workplac/handbook/toc.htm

**IN THE ALBERTA GOVERNMENT LIBRARY**

Violence in the Workplace: Prevention Guide

Violence in the Workplace: Preventing, Assessing and Managing Threats at Work

Workplace Violence

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# The Real

by Debbie Culbertson

The police car draws up in front of a tidy suburban bungalow. An officer gets out and walks up the sidewalk and rings the bell. A young mother opens the door with a toddler in her arms. The officer takes a breath and begins to deliver the worst kind of news. Earlier in the day, her husband – a pipeline worker – was helping unload some equipment when he was struck and killed by a backhoe bucket operated by another worker.

What is the cost of this accident? For the relative of the person killed on the job, the answer is obvious. The cost is overwhelming and incalculable. How can anyone measure the loss of a spouse, sibling, child, friend or parent? Yet for companies across Canada, it is becoming clear that calculating the cost of an accident can be vital not only to the company's survival, but also to the very safety of its employees.

James Hansen is a research strategist with the Industrial Accident Prevention Association (IAPA), the largest safety and health association in Canada. He says that there are two kinds of costs involved in an industrial accident. The first are "subjective" costs. "These are costs which cannot be quantified," says Hansen. "They might include the loss of a company's reputation, or a worsening of labour-management relations."

Then there are "objective" costs. These are measurable expenses that Hansen organizes into five categories, under which are grouped 50 or so sub-categories. He says that employers can customize these sub-categories to help them understand the real price tag attached to their own workplace accidents.

### COST 1: COMPENSATION AND BENEFITS

The first of Hansen's categories is compensation and benefit costs. These include charges for medical rehabilitation, pension and lump sum payments, as well as survivor benefits.

### COST 2: DAMAGE TO CAPITAL ASSETS

The second category focuses on the cost of damage to materials, equipment and property. For instance, in a recent Alberta accident, an acetylene leak created an explosive atmosphere inside a storage compartment on a mechanic's truck. When a worker attempted to open the compartment, the truck exploded, killing the worker and destroying the vehicle and other materials standing nearby.

### COST 3: LOST PRODUCTIVITY

A third category is that of lost productivity and production. When an accident occurs, all industrial activity in the area of the incident is usually shut down. Workers rush to assist the victim, or escape from a hazardous situation. If the injured employee is able to return to work, he or she may be placed on lighter duties. The employer ultimately bears the financial cost in terms of lower productivity.

### COST 4: LEGAL EXPENSES

Legal costs may be one of the highest costs of a workplace accident. Hansen says that in many situations, government fines alone can reach into the hundreds of thousands of dollars. In one Ontario case, a company was fined a total of $600,000 for three separate health and safety infractions

# Cost

## How do you calculate the cost of an accident?

related to a workplace accident. "When the courts fine a firm, that money comes right off the top," says Hansen. "Business owners have to consider how much product they have to sell in order to pay their fine. Sometimes the fine forces the company right out of business."

**COST 5: AND ALL THE REST**

The final catch-all category is "miscellaneous costs." These can include everything from consultants' fees to quick fix safety solutions put into place after the accident. These are usually poorly thought-out policies and procedures designed to show that the employer is really concerned about safety, despite the recent incident. Unfortunately, because they lack the real commitment of management, the effects of these programs may be short term and ineffective.

**Employers vastly underestimate the actual costs of a workplace incident. In almost every case, the cost of a safety program is far less than the cost of a workplace accident.**

Some business owners may feel that the cost of participating in preventive health and safety programs far outweighs the potential cost of an accident. Yet, according to a 1996 survey undertaken by the IAPA, employers vastly underestimate the actual costs of a workplace incident. In the poll of 2,000 Canadians, 61 per cent of respondents estimated the annual cost of an industrial accident in Canada to be half or less than the actual projected figure of $78,000 ($83,460 in 2000 dollars). Nationally, the cost of workplace accidents in Canada is a staggering $31 billion each year.

Without an accurate understanding of the real accident costs, few employers can adequately comprehend the real bottom line when it comes to the costs of preventive programs. In almost every case, the cost of a safety program is far less than the cost of a workplace accident. The math is simple. Taking the time to erect safe scaffolding is much cheaper than paying fines for unsafe practices when a worker is seriously injured in a fall.

### Some costs are incalculable

There are also costs that cannot be measured, but which employers would be wise to take into account. For instance, an employer may face "downstream costs." These are costs which are not immediately apparent, but which may develop over time. For instance, the Chernobyl nuclear power plant disaster resulted in many downstream costs related to diseases that appeared months and years after the accident. Accident costs can extend far beyond the days and months immediately following the incident.

Of course the greatest bottom line is the human one. Although the financial costs associated with workplace injuries are high, they can't compare to the personal cost to a worker who is injured. According to *The Small Business Guide to Health and Safety*, a publication of the Workers' Compensation Board of British Columbia, injured workers often feel that the accident is their fault. They lose confidence and self-esteem, and may develop problems in their relationships. Some workers are unable to return to their original job, creating personal and financial stress. Younger workers, injured at the most productive time of their careers, may find their future plans thrown into disarray.

When James Hansen opens a newspaper and reads a story about a workplace accident, it's not lost productivity that he wonders about, it's the web of relationships that is affected each time someone loses his or her life or livelihood on the job. "The consequences are absolutely frightening," he says. "And so needless."

*Debbie Culbertson is a writer and editor living in Devon, Alberta.*

Resources

To purchase a copy of Hansen's model, or for more information about the Industrial Accident Prevention Association (IAPA), phone 1-800-406-4272. Dr. James Hansen can be contacted at jhansen@iapa.on.ca.

**WEB LINKS**

**www.esemag.com/0596/canadian.html**
The Industrial Accident Prevention Association (IAPA) says Canadians underestimate the 31 billion dollar workplace accident costs.

**www.mngt.waikato.ac.nz/depts/sml/airaanz/conferce/pdf/head.pdf**
"The Direct and Indirect Costs of Workplace Accidents in New Zealand," a paper by Linda Head and Mark Harcourt.

**www.lwcc.com/news/stop_accidents.html**
Stop Accidents From Attacking Your Bottom Line, a 10-point safety program from the Louisiana Workers' Compensation Corporation.

**IN THE ALBERTA GOVERNMENT LIBRARY**

*Video*
**Hidden Costs of Accidents**, 1989. 10 min.
Features accidents in the hospitality industry. (VC 0182)

# Small Businesses

## are Safer, More Profitable, with PIR

by Debbie Culbertson

You own a small construction company with 15 employees. Construction starts are up this year, and you have more business than you can handle. You've even started "going on the tools" yourself. When a colleague asks you if your business is participating in the Partners in Injury Reduction (PIR) program, you just shake your head. Maybe big firms can afford the staff time for health and safety programs, but not small companies like yours.

Does this sound like your business? Most of the 107,056 companies served by Workers' Compensation Board - Alberta (WCB) are small businesses with fewer than 50 employees. Yet only 4,166 companies participate in the PIR program, a voluntary safety and management systems training program sponsored by Workplace Health and Safety (WHS). One of the reasons small businesses give for not participating in the program is the amount of staff time needed to successfully complete it.

At first glance, the requirements of PIR aren't onerous. Participating companies are teamed with "certifying partners," organizations that develop and implement safety program training for their particular industry and help the participating companies with their training programs. Typically, two or three employees will participate in a three- or four-day program designed by the certifying partner. Then they use their training to establish safe procedures and practices in their workplace. Finally, the certifying partner arranges a safety audit to see if the company has indeed successfully implemented the standards established in the training.

If a company has successfully met the safety standards, the certifying partner will recommend the company for a certificate of recognition (COR). A company with a COR can receive discounts ranging from five to 20 per cent on its WCB premiums.

Yet, despite the WCB incentives, many small businesses are unwilling to commit themselves to the program. "At this time, the discount alone is not enough of an attraction," says Corinne Pohlmann of the Federation of Independent Business. She points out that staff time lost in safety training can cost employers much more than the amount of money that they will save on their WCB premiums. Small business owners are already burdened with an average of six hours per week of government-required paperwork. They seldom want to commit more staff time to another activity that will not enhance the bottom line.

What these small businesses may not realize is the actual cost of a

workplace accident. According to a recent survey produced by the Industrial Accident Prevention Association (IAPA), the average cost of an industrial accident is $78,000 – a huge amount for a small business. The costs don't stop there. There was a 14 per cent increase in WCB rates in 2001, and an additional 15 per cent rate increase is anticipated for 2002. As rates rise, the discounts provided by the PIR program begin to look much more attractive.

There are other incentives, too. According to Pohlmann, small businesses are increasingly finding themselves bidding on contracts that include stiff safety requirements. A company with a COR can prove that it is indeed complying with established safety standards. In addition, WHS and the WCB are consulting with organizations like the Federation of Independent Business to find ways to customize PIR requirements so that more small businesses will be willing to participate. With all of these players working together, soon all businesses – big and small – may agree that safety and the bottom line go hand in hand.

*Debbie Culbertson is a writer and editor living in Devon, Alberta.*

Resources

**WEB LINKS**

www.gov.ab.ca/hre/whs/partners/pir_faq.htm
Partners in Injury Reduction — frequently asked questions.

www.wcb.ab.ca/assets/applets/PIRBooklet.pdf
Partners in Injury Reduction, 2001 information booklet.

www.wcb.ab.ca/assets/applets/PIR2001form.pdf
PIR 2001 — employer registration form.

www.tsuga.ca/pir.html
Tsuga Forestry Services Inc. — the first tree planting company to receive a certificate of recognition.

www.newswire.ca/releases/May1999/20/c6004.html
WCB refunds Alberta companies $2.6 million for excellence in health and safety.

Web Watcher

# A Short Cybershelf

## for OH&S Professionals

**by Bob Christie**

**In each issue of *Occupational Health & Safety Magazine* we have been trying to help professionals make better use of the World Wide Web and the various search tools that help navigate and evaluate this huge collection of data. We assume that most dedicated professionals already know a good deal about the Web and are using it regularly. BUT, as you have on your bookshelf, do you have a short list of favourites?**

**Take a quick look at the favourites section of your browser and see if you have bookmarked locations that you use over and over – your cyber-favourites. If you do, and if you get most of the answers you need from that list, this article probably has little to tell you. If, however, you don't have such a cybershelf of favourites, read on and you may find some general sources of information that will serve you well for years to come.**

**This process will take several issues, so we'll start close to home. Need to find a local course or training agency? Need to look up a section of the *Occupational Health and Safety Act* or a regulation and somebody walked away with your blue binder (or you haven't updated it for six years)? Somebody wants to know how the Partnerships program impacts your company? Want to know the current thinking about worker health and safety under the dome? Need a video or a brochure? All that and much more is available from our very own Workplace Health and Safety Web site at www.whs.gov.ab.ca.**

**Not only is this site a wealth of information, it has the added advantage of allowing the user to do word searches. Try to find a reference to chainsaw in your blue binder. Not easy. Finding it on-line, however, is a simple "Find" command. This site also has a really neat feature called Ask an Expert that allows you to send off that annoying question to be answered by the authorities when you think of it rather than waiting until the next busniess day to talk with someone over the telephone. Of course, you can also use that same service to lodge a complaint.**

**A second local site, connected to the previous site, is the electronic home to this magazine. It is valuable since all of us remember the article that appeared a few months ago and wasn't all that relevant at the time, but is critical now. The last several issues are on-line, and so even if the caretakers threw out your last issue, you have easy access to and can print it in seconds. You can find back issues of *Occupational Health and Safety Magazine* as a subsection of the previous site or by going directly to www.gov.ab.ca/hre/whs/publications/ohsmag.htm.**

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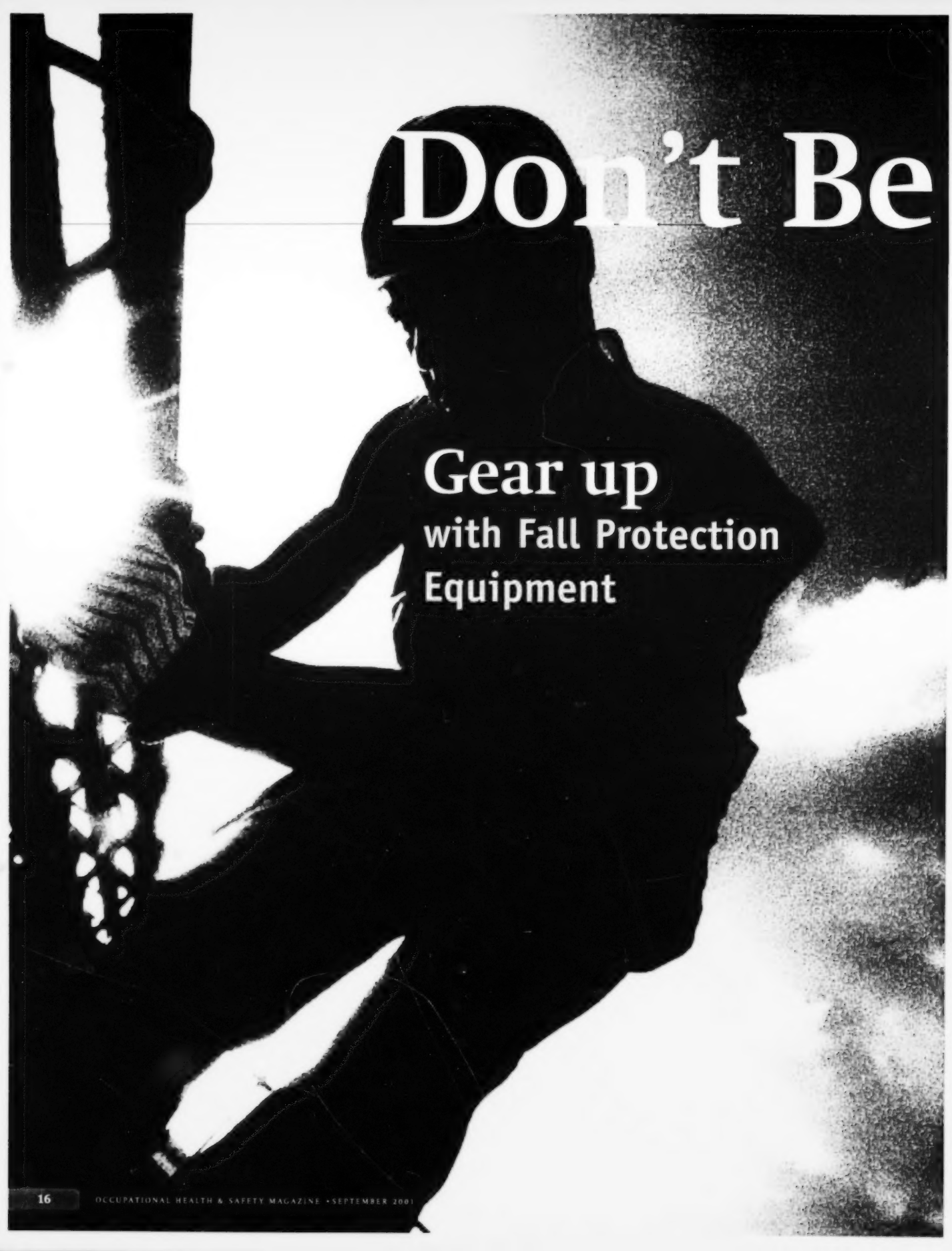

# Don't Be

## Gear up with Fall Protection Equipment

# the Fall Guy!

by Nordahl Flakstad

Are you prepared with excuses so you don't have to take that extra step and use fall protection equipment? If you are, let them go.

Although some signs point to more Alberta workers and employers getting the message about preventing falls and reducing their impact, warnings still too often seem to fall on deaf ears – and the lame excuses keep surfacing.

It's time to get serious about fall protection. Remember: *Lame excuses don't work but they can put you out of work.*

## Let's get the facts straight

- New fall protection systems are user friendly: easier to use and work with.
- Costs of purchase are reasonable, particularly compared to the cost of an accident.
(see The Real Cost, page 12)

As a counter to many excuses, over the last five years manufacturers have developed safer and more user-friendly systems to prevent falls. Demand spawns innovation, thus they have produced systems that are easier to use, equipment that is easier to get into and less restrictive to work in. As production sales have increased, so have product options. Purchase prices are also looking friendlier, although there's still no comparison between the cost of equipment and an accident.

Rick Guenette is the Edmonton-based manager of engineered systems with MSA Rose (formerly Surety Manufacturing and Testing Ltd.). He notes the important advances in fall protection:

- self-retracting lanyards
- temporary horizontal lifelines designed to attach to eyebolts placed in holes punched in structural steel
- easily erected reusable guardrails
- fixed horizontal systems with starwheels that allow movement without having to detach the lifeline.

MSA manufactures a system that allows easy retrofitting of rooftop fall protection to steel commercial and industrial buildings. Recently their Alberta-built and -designed fall protection systems were installed on New York's Grand Central Terminal.

As for claims that it is more difficult to anchor in wood, ways do exist. One idea is to install permanent anchors on roofs during construction. These can be used in future for other purposes – eavestrough cleaning or roof repairs.

## LAME EXCUSES

### Hey, have you heard this one?

**Here are some of the lame, and potentially deadly, excuses workers, supervisors or employers may offer for not using fall protection equipment or making it available.**

#### Have you ever heard a worker say . . .

- It slows down work *(I work faster without it)*
- It creates a tripping (or other) hazard
- I'm only going to be out (up) there a few seconds
- I've done this for 20 years (hundreds of times) and nothing ever happened
- It's not high enough to bother
- We can't find the right equipment
- We work in very confined quarters
- They'll think I'm chicken

#### Have you ever heard an employer or supervisor suggest . . .

- It adds to the cost
- If I insist on fall protection, I'll get fired or we'll lose the contract
- Bill's our best worker, if we hassle him about fall protection, he might quit
- It happens to other guys, not me
- Training and set-up take time
- We work in a "unique" environment, not suited to fall protection
- I didn't know there were regulations about fall protection
- We can't find the right equipment

## Don't Fall For Lame Excuses

### Fall protection improves productivity

Frank Murray has heard the excuses too. None, however, carries much weight with him. In 1983 he survived an 18-metre fall from an oil rig. The fall shattered his pelvis and broke a leg. He became a passionate advocate of preventing

# the Fall Guy!

by Nordahl Flakstad

Are you prepared with excuses so you don't have to take that extra step and use fall protection equipment? If you are, let them go.

Although some signs point to more Alberta workers and employers getting the message about preventing falls and reducing their impact, warnings still too often seem to fall on deaf ears – and the lame excuses keep surfacing.

It's time to get serious about fall protection. Remember: *Lame excuses don't work but they can put you out of work.*

## Let's get the facts straight

- New fall protection systems are user friendly: easier to use and work with.
- Costs of purchase are reasonable, particularly compared to the cost of an accident.
(see The Real Cost, page 12)

As a counter to many excuses, over the last five years manufacturers have developed safer and more user-friendly systems to prevent falls. Demand spawns innovation, thus they have produced systems that are easier to use, equipment that is easier to get into and less restrictive to work in. As production sales have increased, so have product options. Purchase prices are also looking friendlier, although there's still no comparison between the cost of equipment and an accident.

Rick Guenette is the Edmonton-based manager of engineered systems with MSA Rose (formerly Surety Manufacturing and Testing Ltd.). He notes the important advances in fall protection:

- self-retracting lanyards
- temporary horizontal lifelines designed to attach to eyebolts placed in holes punched in structural steel
- easily erected reusable guardrails
- fixed horizontal systems with starwheels that allow movement without having to detach the lifeline.

MSA manufactures a system that allows easy retrofitting of rooftop fall protection to steel commercial and industrial buildings. Recently their Alberta-built and -designed fall protection systems were installed on New York's Grand Central Terminal.

As for claims that it is more difficult to anchor in wood, ways do exist. One idea is to install permanent anchors on roofs during construction. These can be used in future for other purposes – eavestrough cleaning or roof repairs.

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# The Fall Guys: fast falling leads to a slow rebound

Beyond stark statistics — including seven fatal job-site falls last year in Alberta — lie stories of crippling and traumatic injuries. Besides ruptured, battered and broken bodies, hopes, careers and lives also need rebuilding.

The Alberta Workers' Compensation Board's files contain many stories of the years it takes for lives to fall back into place following a fall injury. Take these three stories.

### A Long Coffee Break

For Sam (all names altered), a 48-year-old ironworker, life took a tragic twist before Christmas 1999 when he was working at a gas plant in northern Alberta. He had removed his safety harness and was heading along the wet platform for a coffee break when he slipped on the platform and fell against a safety railing, which gave way. Sam tumbled nine metres to the pavement below. He received multiple injuries consisting of a fracture in the joint line of his left elbow, a fracture of the thigh bone extending into the knee joint and a broken tibia (lower leg bone). The fall also worsened existing low back problems.

Treatment from five specialists followed six weeks spent in hospital. The damage lingers and now Sam spends a lot of time waiting for appointments and decisions about further treatment. Sam never finished high school and his only work experience was as an ironworker. He's unable to do manual work and is having a tough time adjusting to being an ex-ironworker.

### "Small" Fall, a Big Shock for Electrician

In the summer of 2000, Joe, a 57-year-old self-employed electrician, was climbing a ladder when he slipped on the third rung. His left ankle hit the ground and his left knee buckled. Joe quickly learned how small falls can bring big trouble. His tibia (lower leg bone) shattered in several places and another bone broke the skin at the ankle. He required surgery to line up and screw the fractured bones in place.

After eight weeks in a cast, a follow-up visit with his surgeon confirmed infection at the surgery site. He returned to hospital for a week of intravenous antibiotics. His ankle was re-cast and he wore a partial cast for 10 months. Joe still requires antibiotics when infection flares up. Finally, this spring, Joe was back managing his business but had to hire another electrician to handle contracts he had on the books when he fell.

### Hanging in There — Barely

Dave's future as a welder looked promising in the 1980s. Then, at 34, while climbing down from a tank where he was working, he lost his footing. His right arm became his lifeline as his hand grabbed a bar and stopped his fall. Initially, he spent only a few days in hospital. But he had ruptured a bicep tendon in his right arm and also torn the rotator cuff in his right shoulder. While surgery repaired the latter, five attempts to repair the bicep tendon failed. Dave never recovered sufficiently to work as a welder. With WCB assistance, Dave trained as a welding inspector but hasn't found work in that field. For more than a decade, he has worked only at occasional odd jobs.

falls, from any height. Now he's the president of Arresting You Ltd., a Red Deer firm he founded in 1993 to offer fall protection training and consulting services. In response to the suggestion that wearing fall protection slows down workers, Murray concedes that at first productivity may decline by up to 30 per cent, but it soon bounces back. "Once the individual becomes confident and understands the movement with the fall protection system, productivity goes beyond where it was before."

### You don't have to fall far to fall hard

If fall-protection messages are getting through on high, challenges remain in bringing the message down to earth. Canada-wide, about 60 per cent (Alberta's figures are about the same) of lost-time falls occur from less than three metres. (see sidebar, The Fall Guys)

While low-level fall protection may not mean using a harness or lifeline, steps can be taken (or avoided) from the ground up to eliminate hazards and minimize slips and trips. The following can reduce low-level take-offs:

- providing adequate lighting
- avoiding smooth, slick, recently waxed, wet, greasy or icy surfaces
- eliminating hazards such as loose flooring, bricks, tiles, boards and carpeting
- good housekeeping (removing tools and debris from walkways)
- sharing the carrying of large or awkward loads
- wearing non-skid footwear and ensuring footwear is free of ice.

As with other safety perils, education about risk is key to prevention and overcoming complacency. After all, says Frank Murray, " Since we were in diapers, we've fallen thousands of times, so we don't consider it a significant risk. The challenge comes in bringing out the facts of risk to break the complacency."

Breaking complacency could break lots of falls and, better still, prevent them altogether.

*Nordahl Hakstad is an Edmonton-based writer and communications consultant.*

# 3.5 metres: the great divide (and the law)

**Where work areas have a 3.5 metre vertical drop, Alberta occupational health and safety regulations require (with some exceptions) employers to supply, and employees to use, fall protection. (The divide is 1.2 metres in permanent work areas but 3.5-metres in permanent loading areas.)**

**However, the obligation extends below 3.5 metres, "where a fall from a less height involves unusual risk of injury." Regulations can be met by installing fall restraint systems — typically guardrails. If that's not practical, employers are to provide and workers to use fall arrest systems — normally consisting of a harness, lanyard, lifeline and secure anchorage point.**

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## Help these numbers fall

### In 2000

| | |
|---|---|
| 6,043 | The number of falls that resulted in injuries severe enough that workers missed time from work. Workers fell either on the same level or to a lower elevation. |

### In 1999

| | |
|---|---|
| 215,888 | The number of workdays lost due to falls. |
| 15% | The percentage of injuries from falls related to construction. The services (including janitors and cleaners) and transportation industries challenge construction for the dubious distinction as champs of falls. |
| 15.7% | The percentage of lost-time claims due to falls. |
| $17.5 million | Direct costs of injuries due to falls. |
| $250 million | Direct and indirect costs (compensation, medical treatment, remediation and productivity losses) due to falls. |

*Source: Workplace Health & Safety*

Resources

**WEB LINKS**

**www.gov.mb.ca/labour/safety/publicat/guidelin/fallprot/fallprot.html**
Fall protection guideline from Manitoba Labour, Workplace Safety and Health Division.

**www.isfp.org/index.html**
International Society for Fall Protection.

**www.osha-slc.gov/OshStd_data/1926_0502.html**
Fall protection systems criteria and practices. Occupational Safety and Health Administration, U.S. Department of Labor (OSHA).

**www.osha-slc.gov/SLTC/fallprotection/**
Fall protection links from OSHA.

**IN THE ALBERTA GOVERNMENT LIBRARY**

*Publications*

**Fall Protection and Scaffolding Safety: An Illustrated Guide**
by G. Gagnet
Rockville, MD: Government Institutes, 2000.
(TH 5281 G34 2000)

**Fundamentals of Fall Protection**
Toronto: International Society for Fall Protection, 1991
(T55 F86 1991)

*Videos*

**Fall Protection Systems**, 1992, 20 min.
Shows how to put on, attach and work wearing fall protection equipment.
(VC 0224)

**Fall Protection Compliance Kit**, 1995
Describes controlled access zones, leading edges and steep roofs, conventional and alternative fall protection systems, written fall protection plans, and alternative safe work practices.
(VC 0282)

reporting on recent

# convictions

under the *Occupational Health and Safety Act*

**Employer**
Neil Benedict Enterprises Ltd.

**Incident**
On February 4, 2000, a foreman, a senior operator and a backhoe operator entered a pipeline trench to inspect a damaged pipeline. The trench was 2.14 metres deep, 1.77 metres wide and 6.10 metres long. The foreman used his hands to expose the pipeline, then started to remove the pipeline lining with a knife. The senior and backhoe operators left the trench to get some equipment from their trucks to help the foreman. Returning from his truck, the senior operator noticed the trench had caved in and buried the foreman. When efforts to dig the man out by hand failed, the backhoe operator freed the foreman with the backhoe bucket. The foreman sustained serious facial and back injuries.

**Violation**
Neil Benedict Enterprises Ltd. was found guilty of failing to protect workers against a trench cave-in, contravening section 174(1) of the *General Safety Regulation*.

**Fine**
$5,000

**Employer**
Ipex Incorporated

**Incident**
On January 17, 2000, a machine operator at Ipex Incorporated, a plastic pipe manufacturer, was using a cut-off saw to cut plastic pipe. The saw was enclosed in a compartment. When the operator noticed the compartment getting plugged with pipe shavings, she attempted to clear the obstruction, following instructions from her supervisor to leave the equipment running in the process.

First she opened the doors to the compartment – in which the saw remained operational – and used an air wand to try and blow the accumulated shavings out of the compartment to the vacuum hole. Then, to find out if the vacuum had sufficient suction to empty the debris from the compartment, the operator put her hand through the compartment door and over the vacuum hole. When she pulled her hand out, it contacted the saw blade, partially severing three fingers.

Although first aid was administered immediately and emergency services took the woman to hospital, she lost three fingers of one hand.

**Violation**
Ipex Inc. was found guilty, under section 34(1)(d) of the *General Safety Regulation*, of failing to ensure that operational controls on the machinery were operated, used, handled or maintained in accordance with the manufacturer's specifications.

**Fine**
$10,000.00

Real World Solutions

In the real world, identifying and resolving ergonomic issues requires awareness, knowledge and a willingness to try new things. Real World Solutions is a regular column that suggests simple, inexpensive ways to improve employee health through adjustments to the workplace.

If you've found a solution that you would like to share with our readers, please send it to **ray.cislo@gov.ab.ca.** We will publish those that apply to a broad range of situations.

## Hands-free telephone use

**The Problem**
Telephone handsets cradled between the head and shoulder can lead to strained muscles and chronic neck and shoulder pain.

**The Solution**
A headset, or a handset designed to be cradled effortlessly.

**Benefits**
Eliminates the awkward position and frees hands for other tasks.

## Improving access and visibility

**The Problem**
Tools stored in a cabinet drawer may be difficult to reach and find when needed.

**The Solution**
Replace the drawer with a wall-mounted cabinet.

**Benefits**
Tools are always visible and easy to reach.

Ergotips

# Exhausted – Behind

by Ray Cislo

**Most of us think of ergonomics as it relates to such things as chairs, hand tools and control panels. However, our ability to function is also affected by heat, cold, fatigue and workload. These too are ergonomic factors, as they have significant impact on our comfort and ability to work.**

- **Lost for words? Sleep loss means you may have difficulty finding the words for what you want to say. Uh . . . uh . . . uh . . .**
- **Taking more risks? Fatigue causes some people to take more risks as they try to avoid additional effort.**
- **Only a few seconds? A "microsleep," one of those naps lasting four or five seconds, is long enough for you to travel more than the length of a football field at highway speeds.**

Our society considers it unacceptable to operate a motor vehicle while under the influence of alcohol. In Alberta, the legal limit for blood alcohol concentration (BAC) is .08 per cent. At this level, drivers are considered to be impaired. Thinking and reflexes slow down, judgment may be impaired, speech may slur, and there may be problems with memory. Drivers in this state should not operate, nor should they be allowed to operate, any motor vehicle.

A recent study by Australian researchers on the effects of lack of sleep on human performance may force us to look at worker fatigue in the same way. Since fatigue or tiredness is so difficult to measure, the researchers compared impairment due to sleep deprivation with alcohol-induced impairment.

Findings of the study suggest that after only 20 hours of sustained wakefulness, a person may be as impaired as someone with a BAC of .10 per cent, a level of intoxication greater than the level legally permitted in Alberta.

The results of this study support the suggestion that even moderate levels of sustained wakefulness reduce performance to an extent greater than is currently acceptable for alcohol intoxication. Since approximately 50 per cent of shift workers typically spend at least 24 hours awake on the first night shift

# or Drunk

## the Wheel It Makes No Difference

**Sleep deprivation needs to be taken seriously, since extended periods of wakefulness can significantly impair worker performance.**

of their work period, these findings have important implications to industries involving shift work.

The results are also important for anyone working extended hours over multiple days or weeks with inadequate periods of rest. Since sleep debt is cumulative, we can expect to see similar performance impairments in workers fatigued due to a lack of sleep.

The message? Sleep deprivation needs to be taken seriously, since extended periods of wakefulness can significantly impair worker performance. Most employers have company policies to deal with alcohol and drug use. Some employers are now introducing fatigue management programs to prevent injuries and financial losses. No one would allow an intoxicated person to operate a motor vehicle. Perhaps it's time to reconsider our attitudes towards allowing someone who hasn't slept for the past 20 or more hours to operate a vehicle or other dangerous equipment.

*Ray Cislo, P.Eng., B.Sc., (H.K.) is a safety engineering specialist at Workplace Health and Safety.*

### Danger signs

**If you experience any of these symptoms while driving, take them as a warning that you could fall asleep without meaning to.**

- **Your eyes close or go out of focus by themselves.**
- **You have trouble keeping your head up.**
- **You can't stop yawning.**
- **You have wandering, disconnected thoughts.**
- **You don't remember driving the last few miles.**
- **You drift between lanes, tailgate or miss traffic signs.**
- **You keep jerking the car back into the lane.**
- **You have drifted off the road and narrowly missed crashing.**

**If you have even one of these symptoms, you may be in danger of falling asleep. Pull off the road and take a nap.**

***Source: National Sleep Foundation***

Resources

**WEB LINKS**

**www.csisleep.com**
Canadian Sleep Institute

**www.gov.ab.ca/hre/whs/publications/pdf/erg015-1.pdf**
"Fatigue and Safety at the Workplace (Quick Facts)," a Safety Bulletin from Workplace Health and Safety.

**www.gov.ab.ca/hre/whs/publications/pdf/erg015.pdf**
"Fatigue, Extended Work Hours and Safety in the Workplace," a Safety Bulletin from Workplace Health and Safety.

**PUBLICATIONS**

**Quantifying the Performance Impairment Associated with Fatigue**
by D. Dawson and N. Lamond
Journal of Sleep Research, 8(4): 255-262, 1999.

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www.cstsleep.com
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*Source: National Sleep Foundation*

# Eliminate Hazards, Reduce the Risk

## The Health and Safety Management System: Part 2
## Hazard Assessment and Control

**by Debbie Culbertson**

A worker is using an angle-grinder to grind slag from a cast-iron counterweight for a forklift. During the grinding process, the grinder disc fractures. A piece of disc penetrates the worker's face shield and strikes him on the head. The worker dies from his injuries.

How can work-related fatalities like this be avoided?

"Everyone in the steel industry grinds steel plate," says Mike Joyce, the executive director of the Manufacturers' Health and Safety Association (MHSA). "When the speed of the grinders and discs aren't matched, the disc can explode. The way to eliminate the hazard is to match the speeds." Changes like this one can prevent unnecessary injuries and even death.

Joyce understands the importance of reducing risks. His organization helps manufacturing companies develop comprehensive health and safety programs. Many of the businesses the association works with handle steel, a material that can be sharp and dangerous to use.

Joyce says that the first step to injury prevention is for employers to sit down with workers and take a hard look at the jobs they do and the hazards they may encounter.

"Once they've identified the hazards, they can put safe practices and procedures into place," he says. "If they can't eliminate the hazards, they can find ways to control them." Eliminating the hazards can be as simple as changing the product that workers are using. For instance, a painter might begin using water-based paints rather than more hazardous oil-based paints. Controlling risk can be equally simple. Wearing personal protection equipment such as safety glasses, face masks, ear plugs and protective footwear is just one easy way to protect themselves. Employers can put in place engineering controls such as installing guardrails or automatic shutdown systems. These are the first and preferred way to prevent accidents.

Identifying risks and developing safety procedures is just one part of hazard reduction and elimination. "Working safely has to be the norm in the workplace, rather than the exception," says David Doyle, formerly of the Alberta Municipal Health and Safety Association (AMHSA).

Municipal employees include workers in jobs as diverse as street cleaning and office administration, beaver dam control and road maintenance. Doyle says that frontline workers are often eager to put safety procedures into place. "But in my experience, their biggest concern can be the lack of support from management."

That lack of support can be dangerous. If an employer ignores worker safety, then workers can find themselves in potentially hazardous situations. For instance, without a safety policy in place, a welder may feel he is not entitled to ask questions about a substance he has been asked to work with. This can place him at risk.

Fortunately, employers do seem to be paying attention, says Mike Joyce. "When we first started dealing with companies, we'd go into many shops and people weren't wearing personal protective equipment," says Joyce. "Now that's rare."

Identify the hazards, reduce or eliminate the risk. It's as simple as that.

*Debbie Culbertson is a writer and editor living in Devon, Alberta.*

## What is Partnerships?

**Partnerships in Health and Safety is a province-wide injury prevention program sponsored cooperatively by government, labour and industry. It is based on the concept that when employers and workers build effective health and safety management systems, the human and financial costs of workplace injuries and illnesses can be reduced. Partnerships is for employers of any size.**

**How you benefit**

*The Partnerships program offers employers:*

- Tools to implement a health and safety management system
- Guidance in applying for a certificate of recognition (COR)
- The potential for premium refunds from the Workers' Compensation Board – Alberta.

*For more information about certificates of recognition or the Partnerships program, call the Partnerships hotline at: (780) 427-8842 or toll-free 310-0000.*

### Resources

**The Manufacturers' Health and Safety Association** (MHSA) provides safety training and assistance in establishing company safety programs in the manufacturing sector. It is a certifying partner for the manufacturing industry. For more information, call (780) 428-1006.

**The Alberta Municipal Health and Safety Association** (AMHSA) provides health and safety training to its members and helps them develop their health and safety programs. It is a certifying partner for municipalities in Alberta. For more information about the AMHSA, call 1-800-267-9764.

### Resources

**WEB LINKS**

**www.whs.gov.ab.ca/hre/whs/partners/index.html**
The Workplace Health and Safety Web site's Partnerships page.

**IN THE ALBERTA GOVERNMENT LIBRARY**

*Books*

**Safety and Health Management Planning**
by James Kohn
Rockville, Maryland: Government Institutes Inc., 1999
(T55 S22 1999)

**Safety Through Design**
ed. by W. Christensen
National Safety Council, 1999
(T55 S23 1999)

*Videos*

**High Impact Safety Awareness**
Canadian Learning Company, 18 min.
(VC 0326)

# Workplace Fatalities

***Occupational Health & Safety Magazine*** **publishes Workplace Fatalities to remind readers of the importance of workplace health and safety. The information is not a final investigation report. In many cases investigations are continuing. Final investigation reports are filed at the Alberta Government Library (formerly the Alberta Human Resources and Employment Library) and can be viewed there or on the Workplace Health and Safety Web site at www.whs.gov.ab.ca under fatality reports.**

**An occupational fatality refers to the death of a worker caused by a work-related incident or exposure.**

**To protect personal privacy, the fatality descriptions do not include the names of the deceased.**

## Work-related incident fatalities March 2001 – June 2001

Most work-related incident fatalities that fall under provincial jurisdiction are investigated by Workplace Health and Safety. In general, highway traffic, farm, disease or heart attack fatalities are not investigated.

**The following fatalities have been or are being investigated.**

- A 30-year-old contract oilfield battery operator was using a grinder to cut the bolts off a faulty "thief" hatch on a tank at an oil battery site. The tank was approximately one-quarter full of produced water, a by-product of the oil and gas drilling process. (Produced water is usually a salty water mixed with various hydro carbon gases.) The grinding created sparks that ignited the residual gas vapours in the tank headspace and caused an explosion. The force from the explosion blew the tank lid and worker 30 metres across the lease site, killing the worker.

- A 26-year-old labourer was run over by a piece of road-building machinery at a subdivision under construction. While there were no witnesses to the event, it appears the man got off the machine while it was still moving to clear something from its underside. He somehow became caught in the machine's tracks and was run over.

- A 29-year-old motorman and a floor-hand (roughneck) were working on a drilling-rig floor when they noticed that a hydraulic hose had become disconnected. Although drilling was underway, they entered the area near the rotary table (housing the drill), attempting to reconnect the hose. While they were working with the hose, a piece of drilling equipment seized. The sudden stop caused the bails (heavy steel bars used for lifting) to swing out from their position above the rotary table. The bails struck the motorman and floor-hand. The motorman died from the blow; the floor-hand was injured.

- A 59-year-old truck driver parked a tank truck at the loading platform of a bulk fuel station, preparing to load the tank with diesel fuel. He climbed the stairway attached to the loading platform, then lowered the extending platform to reach the top of the tank truck. While refuelling, he fell 2.8 metres to the ground onto his head. He was working at night, in a poorly lit area. There were no witnesses to the fall.

- A 47-year-old backhoe operator was working alone excavating a trench. He was trying to access the sewer and water lines for connection to a house under construction. He entered the trench, which was approximately three metres deep with straight-cut walls. The trench collapsed and buried him.

- A 32-year-old journeyman electrician climbed into a ceiling space in a building under construction to repair a light fixture problem discovered the previous day. He came into contact with a live electrical wire and was electrocuted.

## Occupational disease fatalities accepted March 2001 – June 2001

Disease fatalities represent claims that have been accepted by the Workers' Compensation Board (WCB) – Alberta for compensation. They are counted in the year they are accepted.

**The following fatalities resulted from exposure to asbestos.**

- An 81-year-old construction insulator, who from 1964 to 1982 was exposed to asbestos, fibreglass, mineral wool, calcium silicate, styrofoam and other man-made mineral fibre materials.

- A 74-year-old electrician, who worked for 34 years in the electrical industry.

- A 58-year-old heavy-duty mechanic, who was exposed to asbestos in brake linings and clutches over 26 years.

- An 81-year-old insulator, who worked on various projects from 1952 to 1954.

- A 77-year-old drywall insulator, who was exposed to asbestos while working with drywall tape. Between 1966 and 1973 the powdered cement used for taping contained asbestos.

- A 79-year-old plumber, who was exposed to asbestos when he worked in the plumbing industry in the mid-1950s.

- A 55-year-old cement finisher, who was exposed to silica dust while cutting and jack-hammering old concrete between 1978 and 1985, and to asbestos containing aggregate for finishing cement in the 1990s.

**The following fatality resulted from exposure to coal dust.**

- A 79-year-old underground coal miner, who developed chronic obstructive pulmonary disease after 38 years of exposure to coal dust in underground mines.

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## Did You Know?

**In Alberta**

- Every year 400 people are killed and 23,000 injured in 95,000 crashes
- One quarter of all work-related deaths are due to traffic collisions
- Traffic injury claims cost Alberta industry over $34 million per year
- On average, a collision costs a company $8,300

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